

outcome. Additionally, education and sewage disposal service variables that were collected through household-level interviews or retrieved from IBGE census tract data were associated with HAV infection in all sites.

Conclusion: The study sites were classified as areas with low endemicity area for hepatitis A infection. This multilevel model allowed for quantification of contextual predictors of hepatitis A infection in urban areas.

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Household survey of hepatitis B infection and risk factor assessment in the from South and Southeast region of Brazil

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Background: In 1989, the Brazilian government first implemented immunization against hepatitis B for infants and children in the western Amazon region and gradually expanded this to other regions. Vaccination of risk groups for the whole country started in 1992, and new groups have been successively added to the original list. Since 1998, the HBV vaccine has been incorporated into the immunization schedule for infants as a national policy and, in 2001, this was broadened to include children and adolescents. Ppopulation-based survey was conducted in Brazil to estimate the prevalence of and risk factors for HBV infection from South and Southeast region of Brazil.

Methods: Random multistage cluster sampling was used to select individuals aged 13-69 years. Outcomes indicating HBV infection were anti-HBc and HBsAg. HBsAg-positive samples were tested for HBV-DNA and genotyped. Univariate and multivariate analyses were performed.

Results: Overall, 10,496 individuals were included; the prevalence of anti-HBc was: South 1,58% for 10-19 and 11,3 for 20-69 years old; Southeast 0,61% for 10-19 and 7,9 for 20-69 years old. HBsAg positivity was less than 0,5% in all areas. Genotypes 3A, 1b, 1a and 2b were identified. Age were associate with HBV infection in all region and male were independently associated with HBV infection in Southeast.

Conclusion: Our survey classified the South and Southeast region of Brazil as low HBV endemicity areas. Our findings that age is risk factors for HBV reinforce the need for extensive HBV vaccine coverage among adolescents to prevent viral infection. All individuals belonging to the risk groups identified by our survey should be considered candidates for HBV vaccine and educational measures. Therefore, vaccination upon request for individuals without specific risk should be considered, in accordance with the current CDC recommendations. This survey shows the importance of generating

population-based information to facilitate comprehensive vaccination and of developing educational strategies that address regional differences.

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Age-dependent, differentiated prevalence of anti-HAV and anti-HBc antibodies among patients with chronic hepatitis C (CHC): New aspect of future vaccination perspectives against hepatitis A Virus

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Background: Hepatitis A is an acute, usually self-limiting disease of the liver, caused by hepatitis A virus. Patients with chronic liver disease are at increased risk of severe complications, related to hepatitis A, which, in some circumstances, may even lead to death. Therefore, it is postulated that HAV susceptible individuals (anti-HAV seronegative subjects) should be vaccinated against HAV to prevent or diminish morbidity and mortality of the disease. Aim: Evaluation of the prevalence of anti-HAV antibodies among patients in different age groups with chronic hepatitis C.

Methods: 133 patients (the mean age: 38.3 yrs) with CHC were divided into two groups, according to age (Table 1). The control group consisted of 150 healthy young medical students (the mean age: 25.3 yrs). The presence of anti-HAV and addition of HBV infection viral markers: anti HBc and HBsAg in blood sera of the patients and of the control group were assessed, using the standard EIA method (Cobas Roche).

Results: The prevalence of anti HAV antibodies and HBV infection markers among the evaluated groups are presented in Table 1.

Group	Age years	Pt n	anti HAV		Anti-HBc		HBsAg	
			n	%	n	%	n	%
CHC	18-30	33	5	15.5	6	18.8	0	0
	31-73	100	47	47.0	27	27.0	2	2
Control	150	15	10.0	8	5.3	2	1.33	
24-26								

In the study groups, age-dependent, differentiated prevalence of anti-HAV and anti-HBc was observed among younger (< 31 years) and older (> 30 years) patients with CHC (15.5% vs. 47.0%; $p = 0.05$ and 18.8% vs. 27%, $p = 0.05$, respectively), which was higher than in healthy controls (10.0% and 5.3%, respectively).

Conclusion: Patients below 31 with CHC present significantly lower anti-HAV and anti-HBc prevalence than older ones, what creates a substantial risk for fulminant liver failure and even death in case of HAV or HBV infection. Thus vaccination programmes against HAV and HBV are strongly recommended in these groups of patients.

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